

**Remarks**

Prior to entry of this amendment, claims 1, 4, 5, 7-13, 15, 17, 18, 20 and 21 are pending in the subject application. Claims 7, 10 and 15 were previously withdrawn from consideration. Claims 1, 4, 5, 8, 9, 11-13, 17, 18, 20 and 21 stand rejected.

**A. Introduction**

In the outstanding Office Action, the Examiner rejected claim 1, 4, 5, 8, 9, 11-13, 17, 18, 20 and 21 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent 4,274,423 to Mizuno et al. (Mizuno) in view of U.S. patent 5,715,827 to Corl et al. (Corl), U.S. Patent 6,159,156 to Van Bockel (Van Bockel) and U.S. patent 5,456,682 to Edwards (Edwards); and rejected claim 13 under 35 U.S.C. § 103(a) as being unpatentable over Mizuno in view of Corl, Van Bockel and Edwards, as applied to claim 1, and further in view of U.S. patent 4,686,964 to Yunoki (Yunoki).

**B. Asserted Obviousness Rejections of Claims 1, 4, 5, 8, 9, 11-13, 17, 18, 20 and 21**

In the outstanding Office Action, the Examiner rejected claims 1, 4, 5, 8, 9, 11-13, 17, 18, 20 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Mizuno in view of Corl, Van Bockel and Edwards. The applicant respectfully traverses the rejection and submits that Mizuno, Corl, Van Bockel and Edwards, separately or combined, fail to teach, disclose or render obvious the subject claims.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1389 (2007). In

order to establish that a claim is obvious, it is necessary to show a teaching or suggestion of all the elements in a claim (*CFMT, Inc. v. Yieldup Int'l Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003)) and "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007).

The use of hindsight knowledge to support an obviousness rejection under 35 U.S.C. § 103 is impermissible. See e.g., *W. L. Gore and Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13, (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). "A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning." *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1742 (2007).

Claims 1, 17 and 20 are the three independent apparatus claims of the present application. Claim 1 requires a medical instrument comprising, *inter alia*, a recess in an instrument body which comprises a collar forming an undercut, said collar having an inside diameter that is smaller than a length in a width of the recess.

Similarly, claim 17 discloses a medical instrument comprising, *inter alia*, a recess provided in an instrument body including a collar having a length  $L_K$  and a width  $B_K$  forming an undercut in at least one partial region of the recess, said recess having a length  $L_H$  and a width  $B_H$ , where  $L_H$  is greater than  $L_K$  and  $B_H$  is greater than  $B_K$ .

Further, claim 20 discloses a medical instrument comprising, *inter alia*, a recess which is provided in the instrument body which comprises a collar forming an undercut in at least one partial region of the recess, said collar having an inside diameter that is smaller than a length and a width of said recess.

Claims 1, 17 and 20 also disclose, *inter alia*, a wireless readable data carrier embedded in the recess, the data carrier including a transponder and an antenna for receiving and sending electromagnetic interrogation and answering signals.

Further, claims 1, 17 and 20 also require, *inter alia*, an embedding medium arranged between the data carrier and the recess for preventing the removal of the wire-

less readable data carrier or for decoupling the wireless readable data carrier from the instrument body.

There Is No Suggestion Or Motivation To Modify The Reference(s)

The applicant respectfully submits that the arrangements required in the claims are significantly different from the cited prior art references. The prior art references are not consistent with respect to each other, and actually teach away from the claims.

Mizuno, the primary cited prior art reference, teaches that it is desirable to expose as much of the pressure transducer to the ambient pressure as is possible. The pressure transducer should be *resting on, but not joined to any supporting member, in order to avoid the thermal stresses of conjoined dissimilar materials*. This is disclosed in Mizuno on column 1, lines 58-63, column 5, lines 49-51 and column 6, lines 41-48. Thus, it is clear that Mizuno teaches against an embedding medium, as is required in claims 1, 17 and 20. The embedding medium cited by the present Office action, with respect to Mizuno, appears to be the protective member 22. This protective member 22 is simply a silicone cover over the non-embedded pressure transducer, as disclosed in column 5, line 66 through column 6, line 4. Mizuno discloses no embedding characteristics to this element at all.

In addition, Mizuno teaches a hard-wired arrangement, which is acknowledged in the present Office Action on page 2, line 22 through page 3, line 1. It is clear that the pressure transducer is maintained in its desired position with the hard-wiring. No embedding material is disclosed. Mizuno prefers no embedding material to eliminate stresses from dissimilar materials (Col. 1, lines 60-63), and as described above.

The present Office action declares that one having ordinary skill in the art would have known to make the hard-wired data carrier of Mizuno a wireless data carrier, based on the teachings of Van Bockel. However, in modifying Mizuno to make the pressure transducer wireless, it is clear that one skilled in the art would be removing the only mechanism for attaching the pressure transducer to the device of Mizuno. As a

result, it will be necessary to provide an embedding material with Mizuno to fix the pressure transducer. However, as disclosed in Mizuno, Col. 1, lines 60-63, this arrangement is not favored and is clearly avoided. Thus this proposed modification of Mizuno with Van Bockel is directly contrary to the teachings of Mizuno, and appears to be a clear case of impermissible hindsight construction.

For at least these reasons, the applicant respectfully requests that the rejections of independent claims 1, 17 and 20 under 35 U.S.C. § 103(a) be favorably reconsidered and withdrawn. Since the dependent claims are patentable at least by virtue of their dependency on the allowable independent claims, the applicant respectfully requests that the rejections of the dependent claims under 35 U.S.C. § 103(a), also be withdrawn.

The Cited References Do Not Disclose Each And Every Element Of The Claims

It is clear that in addition to teaching against an embedding medium and a wire-less arrangement, which are required in the present independent claims 1, 17 and 20, Mizuno also fails to teach a collar arrangement. Corl fails to overcome the deficiencies of Mizuno in disclosing a collar arrangement. Thus, the use of Mizuno and/or Corl as suitable reference(s) will require extensive modifications, which, as addressed above, must be contrary to the teachings of Mizuno itself.

Mizuno teaches that pressure is applied to the hole 12 (Col. 4, lines 66-67) and an embedding medium is not permitted, so as to avoid stresses from dissimilar materials (Col. 1, lines 60-63). The arrangement of Mizuno, which is intended to maximize the freedom to its pressure transducer, also fails to disclose a collar arrangement, which is required in claims 1, 17 and 20.

Mizuno discloses a catheter tip pressure transducer, wherein the pressure sensor is mounted on an insulating supporting member without being secured formerly thereto (see Abstract). Figs. 5-6 disclose that, with respect to the inlet hole 12, there is no undercut. The sides of the inlet hole 12 are extended down to the centerline of the

cylindrical body 11. Thus, without any additional disclosure related to the formation of the inlet hole 12, the inside diameter of the inlet 12 cannot be narrower than the interior of the support member 11, and in fact they are the same width. Mizuno fails to disclose any collar arrangement at all, and discloses no intent to hold its pressure transducer with any structure at all, except via the wires. Mizuno discloses only an inlet 12 wherein the apparent inside diameter of the inlet 12 is the same as the width of the interior of the support member 11.

Corl discloses a pressure sensor which includes a housing with a space for a pressure sensor that includes a diaphragm over the pressure sensor and a cavity surrounding the pressure sensor to provide a pressure reference (see Abstract and column 2, line 65 through column 3, line 2). Corl is also presented in the present Office action to disclose a collar arrangement. However, as shown in Figs. 7 and 8, which are cited by the Examiner, Corl discloses only a well 84 having sloped sides 82, 83 which extend toward a lower cavity 101 below a diaphragm 79. In a manner similar to the disclosure of Mizuno, Corl discloses that the sloped sides 82, 83 extend down into the region of the mid-line of the generally cylindrical pressure sensor assembly 76. Thus, the sloped sides 82, 83 appear to intersect the interior diameter of the pressure sensor assembly 76 at its major internal diameter. In the absence of any additional disclosure of regarding the arrangement of the sloped sides 82, 83, it appears that Corl discloses no analogous collar section similar to that required in claims 1, 17 and 20. The cited prior art references fail to disclose a collar arrangement having the limitations required in claims 1, 17 and 20.

With respect to a different feature of claims 1, 17 and 20, both Mizuno and Corl fail to disclose a wireless arrangement (column 3, lines 7-9 and column 6, lines 40-50).

Van Bockel is presented to disclose a wireless pressure sensor. However, Van Bockel discloses that the pressure transducer is for use in an artery, that it is not attached to a medical instrument at all, but is insertable inside a human body for monitoring blood pressure (see Figs. 3 and 4 and Col. 5, lines 29-39).

Van Bockel does not disclose that the pressure sensor is incorporated into a medical instrument, which is required in independent claims 1, 17 and 20, but is directed to solving a completely different problem, that of independent blood pressure monitoring inside an aneurysmal sac in an artery between the wall of the artery and the wall of an endoprosthesis. It is clear that Van Bockel discloses a wireless capability, however, it is not clear where Van Bockel provides a suggestion or motivation for including this wireless capability into a medical instrument having a cavity and an embedding medium as is required in the independent claims. The contrary teachings of Mizuno, as addressed above, only make this matter more difficult.

Edwards discloses a hard-wired thermally-insulated electrode having a potting compound 100 which insulates a thermistor 94 from the surrounding ablation electrode 16 (Fig. 6c and Col. 7, lines 43-48). However, Edwards discloses that the tip of the thermistor 94 is exposed so that it can sense external temperatures (Col. 7, lines 23-27). Edwards does not disclose:

- Claim 1 “an embedding medium arranged between said data carrier and said recess and forming a body by means of which said data carrier is non-removeably held in said undercut”
- Claim 17 “an embedding medium inserted into said recess and setting up in and around said data carrier such that a rigid body is formed by means of which said data carrier is non-removeably held in said undercut as a unitary rigid structure”  
or
- Claim 20 “an embedding medium encapsulating and forming a body around said data carrier.”

To the contrary, Edwards discloses another hard-wired arrangement, and no recess having a collar. Thus, the applicant respectfully submits that Edwards fails to overcome the shortcomings of Mizuno, Corl and Van Bockel in disclosing each and every element of the independent claims, and fails to provide a motivation or suggestion for combining the dissimilar prior art references.

There Is No Reasonable Expectation Of Success Found In The Prior Art

The prior art references teach a wide variety of conflicting technologies and arrangements. The applicant respectfully submits that, though it may be possible to create the present invention of claims 1, 17 and 20 using hindsight construction, the likelihood of success is effectively zero.

For at least these reasons, the applicant respectfully requests that the rejection of claims 1, 17 and 20 under 35 U.S.C. § 103(a) be favorably reconsidered and withdrawn. Since the dependent claims 4, 5, 8, 9, 11-13, 18 and 21 are patentable at least by virtue of their dependencies on allowable claims 1, 17 and 20, respectively, the applicant respectfully requests that the rejections of the dependent claims under 35 U.S.C. § 103(a) also be withdrawn.

C. Asserted Obviousness Rejection of Claim 13

In the outstanding Office Action, the Examiner rejected claim 13 under 35 U.S.C. § 103(a) as being unpatentable over Mizuno in view of Corl, Van Bockel and Edwards and further in view of Yunoki. The applicant respectfully traverses the rejection and asserts that Yunoki fails to overcome the shortcomings of Mizuno, Corl, Van Bockel and Edwards in failing to provide the suggestion or motivation necessary to modify the prior art references, and in failing to disclose each and every element of the independent claims.

Yunoki discloses an endoscope pickup means which includes a casing 19, which, as the Examiner acknowledges in the present Office Action on page 5, lines 5-6, is an electromagnetic shield. The Examiner asserts that it will be obvious to make this shield a glass casing, as it is disclosed and required in claim 13. However, the original description, page 10, lines 1-3 explains that the glass casing required in claim 13 is to provide thermal tolerance for the assembled device. To the contrary, Yunoki teaches an electromagnetic shield, and claim 1 requires, *inter alia*, a wireless readable data car-

rier comprising a transponder and an antenna for receiving and sending electromagnetic interrogation and answering signals, it is not clear how the electromagnetic shield of Yunoki would not negatively impact the operation of the medical instrument of claims 1 and 13. The applicant respectfully submits that *Yunoki teaches directly against claim 13 in that it teaches an electromagnetic shield which directly conflicts* with the arrangement of independent claim 1, from which claim 13 depends.

Thus, Yunoki fails to overcome the failure of Mizuno, Corl, Van Bockel and Edwards in failing to disclose, suggest or render obvious independent claim 1, and one skilled in the art would find no suggestion to modify Mizuno, Corl, Van Bockel and/or Edwards with Yunoki. For at least these reasons, the applicant respectfully requests that the rejection of claim 13 under 35 U.S.C. § 103(a) be favorably reconsidered and withdrawn.

#### D. Conclusion

The applicant respectfully submits that neither Mizuno nor Corl nor Van Bockel nor Edwards anticipates, teaches, discloses or renders obvious independent claims 1, 17 and 20. Accordingly, the applicant respectfully requests that the rejections of claim 1, 17 and 20 under 35 U.S.C. § 103(a) be withdrawn.

Further, since the dependent claims are patentable at least by virtue of their dependency on allowable claims 1, 17 and 20, respectively, the applicant respectfully requests that the rejections of the dependent claims also be reconsidered and withdrawn.

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite the resolution of any outstanding issues.



In view of the foregoing remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,

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/Wesley W. Whitmyer, Jr./

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